Serial No.	H-V061-E-3

Water BV

- for Water -

Nominal Size: 15 - 50 mm (1/2”-2”)

User’s Manual

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ASAHI *AV* VALVES

This user's guide contains very important information for the proper installation, maintenance and safe use of an ASAHI AV Product. Please store this manual in an easily accessible location.

<Warning & Caution Signs>

Warning	This symbol reminds the user to take caution due to the potential for serious injury or death.
Caution	This symbol reminds the user to take caution due to the potential for damage to the valve if used in such a manner.

<Prohibited & Mandatory Action Signs>

	Prohibited: When operating the valve, this symbol indicates an action that should not be taken.
	Mandatory action: When operating the valve, this symbol indicates mandatory actions that must be adhered to.

(1) Be sure to read the following warranty clauses of our product

- Always observe the specifications of and the precautions and instructions on using our product.
- We always strive to improve product quality and reliability, but cannot guarantee perfection. Therefore, should you intend to use this product with any equipment or machinery that may pose the risk of serious or even fatal injury, or property damage, ensure an appropriate safety design or take other measures with sufficient consideration given to possible problems. We shall assume no responsibility for any inconvenience stemming from any action on your part without our written consent in the form of specifications or other documented approval.
- The related technical documents, operation manuals, and other documentation prescribe precautions on selecting, constructing, installing, operating, maintaining, and servicing our products. For details, consult with our nearest distributor or agent.
- Our product warranty extends for one and a half years after the product is shipped from our factory or one year after the product is installed, whichever comes first. Any product abnormality that occurs during the warranty period or which is reported to us will be investigated immediately to identify its cause. Should our product be deemed defective, we shall assume the responsibility to repair or replace it free of charge.
- Any repair or replacement needed after the warranty period ends shall be charged to the customer.
- The warranty does not cover the following cases:
  (1) Using our product under any condition not covered by our defined scope of warranty.
  (2) Failure to observe our defined precautions or instructions regarding the construction, installation, handling, maintenance, or servicing of our product.
  (3) Any inconvenience caused by any product other than ours.
  (4) Remodeling or otherwise modifying our product by anyone other than us.
  (5) Using any part of our product for anything other than the intended use of the product.
  (6) Any abnormality that occurs due to a natural disaster, accident, or other incident not stemming from something inside our product.

(2) General operating instructions

- Using a positive-pressure gas with our plastic piping may pose a dangerous condition due to the repellent force particular to compressible fluids even when the gas is under similar pressures used for liquids. Therefore, be sure to take the necessary safety precautions such as covering the piping with protective material. For inquiries, please contact us. For conducting a leak test on newly installed piping, be sure to check for leaks under water pressure. If absolutely necessary to use a gas in testing, please consult your nearest service station beforehand.

- Do not step on or apply excessive weight on valve. (It can be damaged.)

- Keep the valve away from excessive heat or fire. (It can be damaged, or destroyed.)
- Water BV is only for water. (Do not use the valve in the following fluids.)
  - Acid liquid. (ex. HCl) - Base liquid. (ex. NaOH)
  - Containing the slurry. - Containing the crystal.
- Always operate the valve within the pressure vs. temperature range.
  (The valve can be damaged or deformed by operating beyond the allowable range.)
- Allow sufficient space for maintenance and inspection.
- Keep the valve out of direct sunlight, water and dust. Use cover to shield the valve.
  (The valve will not operate properly.)
- Perform periodic maintenance. (Leakage may develop due to temperature changes or periods of prolonged storage, rest, or operation.)

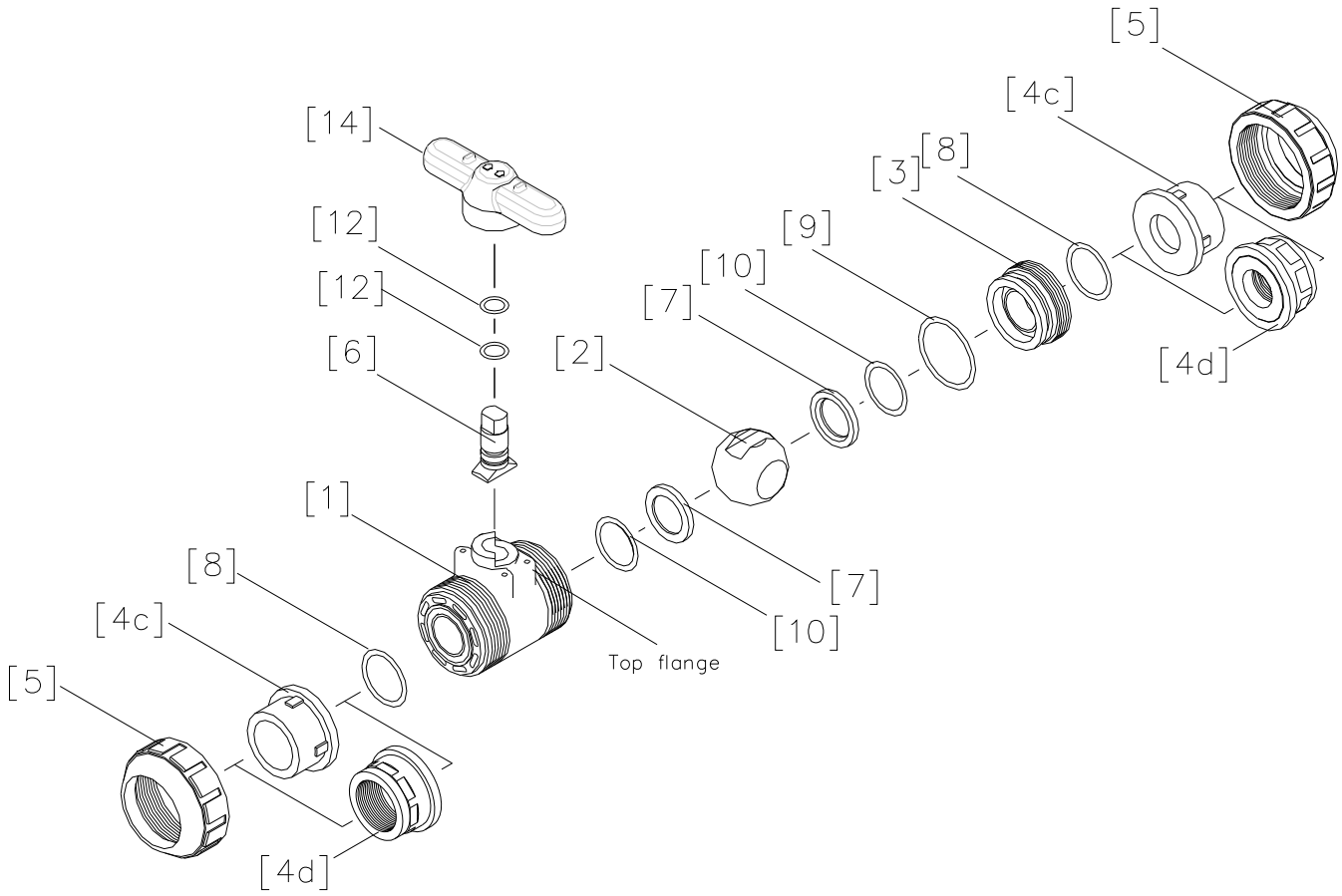
(3) General instructions for transportation, unpacking and storage

- When suspending and supporting a valve, take care and do not stand under a suspended valve.

- This valve is not designed to handle impacts of any kind. Avoid throwing or dropping the valve.
- Avoid scratching the valve with any sharp object.
- Do not over-stack cardboard shipping boxes. Excessively stacked packages may collapse.
- Avoid contact with any coal tar creosote, insecticides, vermicides or paint.
  (These chemicals may cause damage to the valve.)
- When transporting a valve, do not carry it by the handle.
- Store products in their corrugated cardboard boxes. Avoid exposing products to direct sunlight, and store them indoors (at room temperature). Also avoid storing products in areas with excessive temperatures. (Corrugated cardboard packages become weaker as they become wet with water or other liquid. Take care in storage and handling.)
- After unpacking the products, check that they are defect-free and meet the specifications.

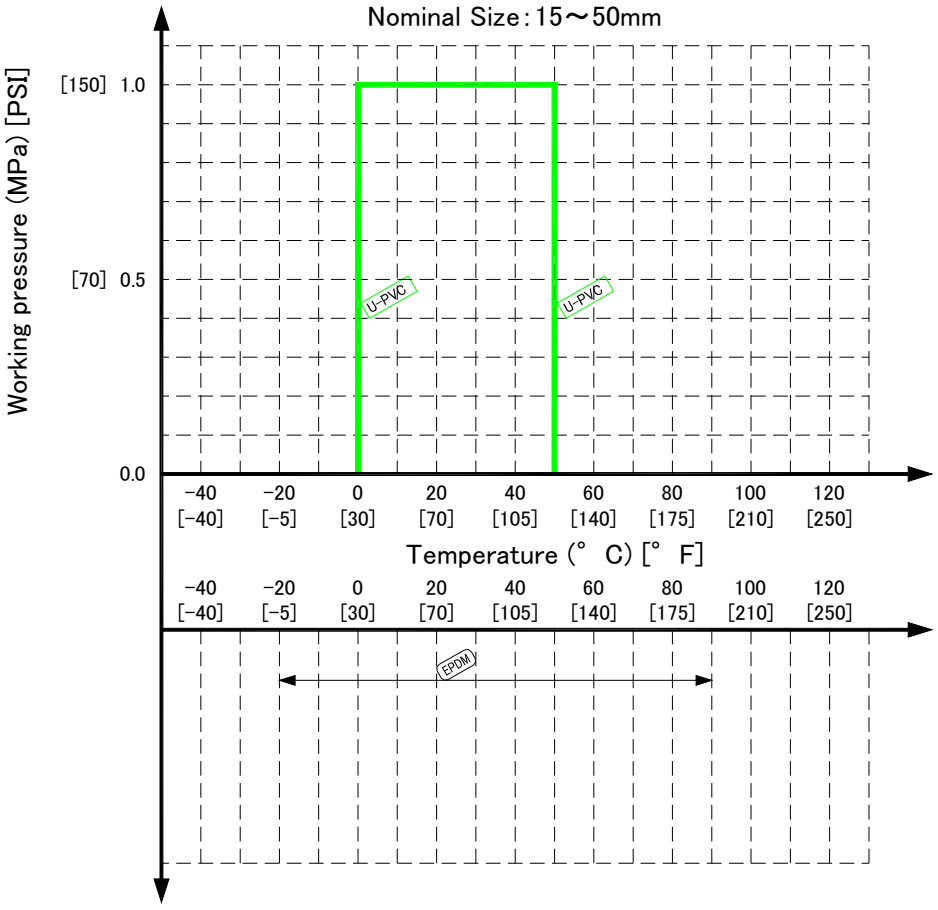
(4) Name of parts

Nominal size 15-50mm (1/2”-2”)



No.	DESCRIPTION	No.	DESCRIPTION
[1]	Body	[7]	Seat
[2]	Ball	[8]	O-ring (A)
[3]	Carrier	[9]	O-ring (B)
[4c]	End connector (Socket End)	[10]	O-ring (C)
[4d]	End connector (Threaded End)	[12]	O-ring (D)
[5]	Union nut	[14]	Handle
[6]	Stem		

(5) Working pressure vs. temperature



(6) Installation procedure

Warning

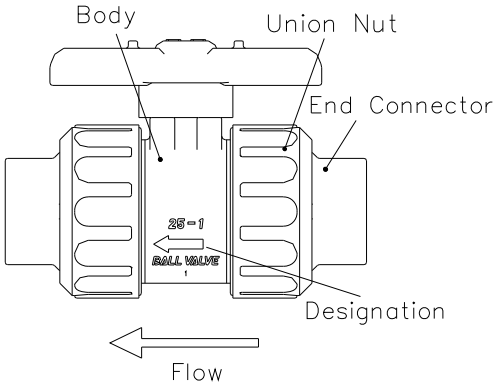
- When suspending and supporting a valve, take care and do not stand under a suspended valve.

- Be sure to conduct a safety check on all hand and power tools to be used before beginning work.
- Wear protective gloves and safety goggles while fluid remains in the valve. (You may be injured.)

Caution

- When installing a pipe support by means of a U-band or something similar, take care not to over-tighten. (Excessive force may damage the pipe.)
- Do not use the pipe wrench. (The valve can be damaged.)

- When installing pipes and valves, ensure that they are not subjected to tension, compression, bending, impact, or other excessive stress.
- When tightening the union nut, close the valve completely. (The ball disc may injure seat.)
- Tighten the union nut tightly. (If not, leakage will be occurred)
- When tightening the union nut by tool, use strap wrench or similar tool. And take care to avoid injury to the valve. Please note that over tightening the union nut may cause valve damage.
- When installing a piece of equipment at the end of the piping line, be sure to keep the secondary (Downstream) End Connector and Union Nut installed on the valve.
- When installing Water BV, note the direction of flow. (Find the arrow molded on the Carrier-side body. On the secondary (Downstream) side, the Carrier is integral with the valve body. This is the preferred method of installation when installing the equipment at the end of the line for safety purposes.)



- When installing, disassembling, or reassembling the piping, fix the end connector, to keep it from rotating.
- Before a water test, be sure that the Union Nut is tightly fastened.
- When loosening the union nut on the union side, fix the end connector (hold it with your hand) and do work. (If the end connector turns, the carrier will turn together, resulting in the union and ball separating from the body.) If the carrier is loosened, retighten the carrier.

Threaded End

Caution

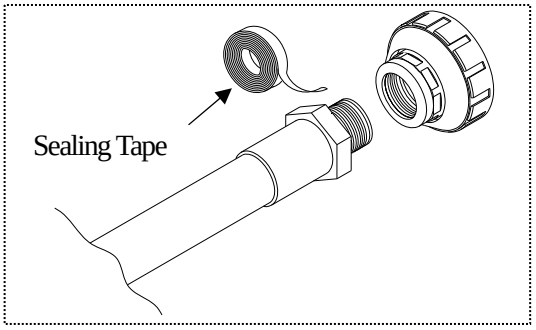
- Avoid excessive tightening. (The valve can be damaged.)
- Make sure that the threaded connections are plastic x plastic.
  (Metallic thread can cause damage.)
- Wrap the threaded joints on our plastic piping with sealing tape. Using a liquid sealing agent or liquid gasket may cause stress cracks (Environmental Stress Cracking). Our product warranty shall not apply in case of said use, even when said use is unavoidable.

Necessary items

- Sealing tape
- Strap wrench
- Spanner wrench

Procedure

1) Wind a sealing tape around the external thread of joint, leaving the end (about 3mm) free.
2) Loosen the union nut [5] with a strap wrench..
3) Remove the union nut [5] and the end connector [4d].
4) Tighten the external thread of the joint and the end connector [4d] hardly with hand.
5) Using a spanner wrench, screw in the end connector [4d] by turning 180° -360° carefully without damaging it.
6) Make sure that the O-ring (A) [8] is mounted.



7) Set the end connector [4d] and union nut [5] directly on the body without allowing the O-ring (A) [8] to come off.
8) Tighten union nuts [5] on each valve until hand tight.
9) Tighten union nuts tightly by using a strap wrench. Please note that over tightening union nuts may cause valve damage.
   (If you wish to control tightening torque, please contact us.)

Socket End

Warning - When using an adhesive, ventilate the space sufficiently, prohibit the use of a fire in the vicinity, and do not inhale adhesive vapors directly.

- If an adhesive gets into contact with your skin, wash it off immediately. If you feel sick or find any anomaly, receive a physician's diagnosis and take appropriate measures promptly.

Caution - Take care in doing work at low temperatures. Solvent vapors are hard to evaporate and are likely to remain. (Solvent cracks may occur, damaging the equipment.) After assembling the piping system, open both ends of the piping and use a fan (of the Low-Voltage Type) or something similar to ventilate the space, thus removing the solvent vapors.

- Use the appropriate Asahi AV cement.
- Conduct a water test at least 24 hours after joining the pipes with an adhesive/cement.

Necessary items

- Adhesive for hard vinyl chloride pipes
- Strap wrench

Procedure

1) Loosen the union nut [5] with a strap wrench.
2) Remove the union nut [5] and end connector [4c].
3) Lead the union nut through the pipe.
4) Clean the hub part of the end connector [4c] by wiping the waste cloth.
5) Apply adhesive evenly to the hub part of the end connector [4c] and the pipe spigot.

Caution - Do not apply more adhesive than necessary. (The valve can be damaged due to solvent cracking.)

Adhesive quantity (guideline)

Nom. Size	15mm (1/2")	20mm (3/4")	25mm (1")	32mm (1 1/4")	40mm (1 1/2")	50mm (2")
Quantity(g)	1.0	1.3	2.0	2.4	3.5	4.8

6) After applying adhesive, insert the pipe quickly to the end connector [4c] and leave it alone for at least 60 seconds.

Caution - Do not under any circumstances try to insert a pipe into another fitting or valve by striking it, which may break the piping.

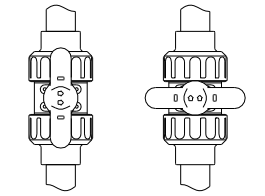
7) Wipe away overflowing adhesive.
8) Make sure that O-ring(A) [8] is mounted
9) Set the end connector [4c] and union nut [5] directly on the body without allowing the O-ring (A) [8] to come off.
10) Tighten union nuts [5] on each valve until hand tight.
11) Tighten union nuts tightly by using a strap wrench. Please note that over tightening union nuts may cause valve damage.
(If you wish to control tightening torque, please contact us.)

(7) Operating procedure

Caution
- Do not exert excessive force in closing the valve.
- Do not use the valve to fluid containing slurry. (The valve will not operate properly.)
- The installed valve must never be opened or closed when foreign matter such as sand is present in the pipeline.
- When operating the handle, be sure to do so with your hand. (Using a tool may damage the handle.)
- Before opening or closing a lubricant free product, be sure to apply water.

○ Turn the handle gently to open or close.
(Turn the handle clockwise to close and counter clockwise to open.)

Fully closed ····· The position of the handle should be perpendicular to the pipe.
Fully opened ····· The position of the handle should be parallel to the pipe.



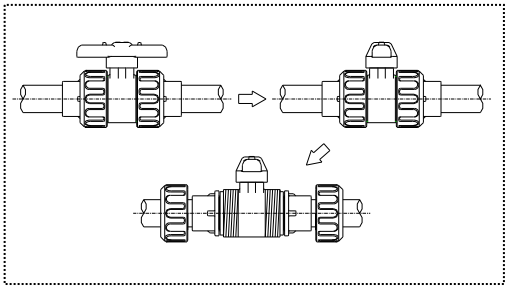
(8) Method of adjusting face pressure between ball and seat

Caution
- Wear protective gloves and safety goggles as fluid remain in the valve even if the pipeline is empty. (You may be injured.)
- Take care not to over-tighten the Union Nut. (The valve can be damaged.)
- Do not use the pipe wrench. (The valve can be damaged.)

Necessary items
● Strap wrench ●Safety goggles ● Protective gloves

Procedure

1) Completely discharge fluid from pipes.
2) Turn the handle to full close.
3) Loosen the right union nut and the left one [5] with a strap wrench.
4) Remove the body part from piping system.
5) Pull the handle off the body part.
6) Engage the upper convex part of the handle with the concave part of the union [3].
   Only the union [3] on the right side when viewed from the trademark (AV mark) can be adjusted.
7) Male an adjustment by turning the union [3] clockwise or counter clockwise.
   - Tighten the union --- Clockwise
   - Loosen the union --- Counter clockwise
8) Make sure that the handle can be operated smoothly.
9) Assemble the valve by following the above procedure in the reverse order, starting at 6)



(9) Mounting actuator

Procedure

1) Remove the handle [14].

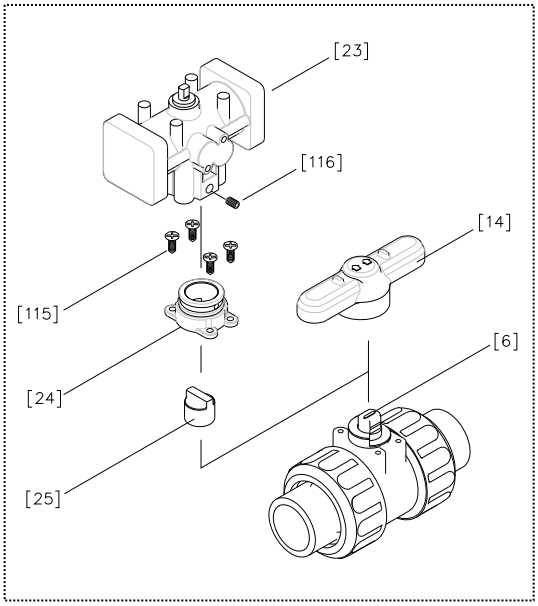
2) Fix the stand [24] to actuator [23] with tapping screw (D) [115].

3) Fix the joint [25] to the stem [6].

4) Engage the joint [25] with actuator [23].

5) Fix the stand [24] to actuator with screw (E) [116].

6) Make sure that the valve works smoothly, by operating actuator [23] by hand.



(10) Inspection items

Caution - Perform periodic maintenance. (Leakage may develop due to temperature changes or over periods of prolonged storage, rest or operation.)

○Inspect the following items.

(1)	Check for flaw, crack, or deformation on the valve.
(2)	Check for leaks to the outside or inside.
(3)	Check for the smoothness of handle operation.
(4)	Inspect the Union nut and be sure it is not loose.

(11) Troubleshooting

Problem	Cause	Treatment
Fluid leaks from the valve even when the valve is closed fully.	The carrier is loosened.	Adjust the face pressure between the ball and the seat. (Refer to page 8)
	The seat is scratched or worn.	Replace the valve with a new one.
	Foreign matter is in the valve.	Clean up.
	The ball is scratched or worn.	Replace the valve with a new one.
Fluid leaks from the valve.	The union nut is loosened.	Tighten up the union nut.
	The carrier is loosened.	Adjust the face pressure between the ball and the seat. (Refer to page 8)
	The O-ring is scratched or worn.	Replace the valve with a new one.
The handle can not be turned smoothly.	Foreign matter is in the valve.	Clean up.
	Deformation. (By heat etc.)	Replace the valve with a new one.
	The carrier is tightening too much.	Adjust the face pressure between the ball and the seat. (Refer to page 8)
The handle fails to engage.	The stem is broken.	Replace the valve with a new one.
	The engagement between the stem and the ball is broken.	Replace the valve with a new one.

(12) Handling of residual and waste materials

Warning

- Make sure to consult a waste treatment dealer for recommendations on the proper disposal of plastic valves. (Poisonous gas is generated when the valve is burned improperly.)

Water BV

- for water -

Nominal size: 15 - 50 mm (1/2” - 2”)

ASAHI *AV* VALVES

Distributor

http://www.asahi-yukizai.co.jp/en/

Information in this manual is subject to change without notice. 2013.8